

Facilities Quarterly

ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY FACILITIES DEPARTMENT NEWSLETTER

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NERSC Project Delivers On Schedule



50B balcony scene: NERSC hardware arrives from Livermore.

Now that NERSC has moved into its new quarters in the 50 Complex and the computer center is up and running, project manager Kirk Haley can finally afford the time to reflect on the accomplishments of the last six months.

Time was a precious commodity for everyone involved in the NERSC effort. Says Haley, "Berkeley Lab made a commitment to DOE to have NERSC up and running in May. Schedule was the driving force."

To fit a project that would normally take two years into six months, Laboratory management made the decision to use fast-tracking. Normally, all architectural and engineering designs for a construction project are completed and approved before any construction starts. This helps prevent design mistakes and construction errors. Fast-tracking means that design and construction proceed simultaneously. "This meant drawings that were finished in the morning were being built in the afternoon," says Haley.

To avoid costly mistakes, good communication and well-informed decision-making were stressed. Architects and engineers spent much of their time at the construction site with the crafts, so they could nip design problems in the bud, and construction superintendents were kept informed of what was coming. Twice-weekly meetings of the Facilities/Computing Sciences project team helped ensure that constructors, designers, and users were in agreement on important de-

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New Maintenance Plan Addresses Five-Year Needs

The University of California's contract with the Department of Energy commits Berkeley Lab to "a cost-effective maintenance program which promotes operational safety, worker health, environmental protection, and property preservation for all Department of Energy (DOE) property, while meeting the programmatic mission."

Maintaining the Lab's one-hundred-plus buildings and structures, utilities, roads, and grounds is a challenging assignment under any circumstances. In these days of competing priorities it is more difficult still, and recent times have seen a steady growth in the number of maintenance jobs left undone at the end of the fiscal year.

This January a team, made up of Facilities Department members from the Maintenance, Crafts, and Design groups, was formed to look at the causes of the maintenance backlog and formulate a meaningful plan for its reduction and eventual elimination.

The team's draft report, which was issued in April, proposes a 5-year plan that targets FY 2001 for eliminating the backlog. The plan is the first in the Lab's history that projects total maintenance needs this far in advance and provides a strategy for meeting them. The plan considers Berkeley Lab's overall maintenance needs, including both ongoing maintenance

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sign and scheduling issues. Decisions were made as a group, but with little dissent. "It was exciting to see people focused on a common goal," observes Haley, "there was a lot of enthusiasm. We enjoyed the challenge."

A problem on fast-track projects is delay in the arrival of materials. Even if a

delayed item seems relatively unimportant, its absence can stand in the way of achieving a much more important milestone. For example, because flooring for the computer room was delayed, workers couldn't start on the ceilings, and the ripple effect threatened to delay computer hardware installation. Some quick schedule juggling allowed ceiling installation to start over the part of the floor that was

complete while the rest of the floor was being finished.

When materials weren't available and time was short, improvisation sometimes actually saved money. For instance, some computer room ceilings and floors were retrofitted to meet current seismic standards, and existing electrical panels were repositioned and rewired.

Project design actually began before Berkeley's NERSC organization had taken shape. At this early stage Computing Science's Eric Beals worked with Facilities to evolve designs that would have maximum flexibility, since no actual user was yet available to provide detailed present and future needs. For example, the computer room HVAC and electrical systems are expandable, so that capacity can be added easily.

Move coordination, both of offices and equipment, was a challenge in itself. First came the problem of relocating existing offices from the 50 Complex areas to be used for NERSC. Haley compares this process to a "game of Chinese checkers," in which whole series of moves were dependent on each other. Bill Wu's Small Projects group handled as many as 20 moves in one day, while also working on office remodels. In all well over 600 moves were required. Move coordinator Lisa Sullivan made the best of this necessary upheaval by consolidating far-flung divisional and departmental offices.

Moving NERSC's offices and computer hardware from Livermore was just as daunting and as successful. The NERSC move team, headed by Dick Dicely and Ron Woods, set up staging areas at Livermore and Berkeley, tracked the hundreds of pieces of equipment and their cabling requirements, arranged security clearances

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FROM THE FACILITIES MANAGER...

This has been an interesting year so far, and it appears that it will continue that way. The Computing Sciences Division is in its new home, with NERSC operating and ESnet gearing up. NERSC and related projects were a big effort for Facilities. On top of this, more funds were identified for maintenance, and we have been painting, reroofing, replacing equipment, thinning trees and undergrowth, and preparing

for next year. And we should not forget the ongoing line item projects such as Human Genome, Structural Biology, and East Canyon Substation, which continued throughout the year.

The fourth quarter will see new interior signs for the Building 50 complex, new bus stop signs and some improvements to the bus stops, new identification painting for the buses, rebidding of the contract labor contract, negotiations with DOE for new procedures (based on the LCAM Order) and continued refinement of Stores.

Evaluation of replies to the Request for Proposal for a new facilities management system will be completed in mid-July. Software installation is planned to start on the first of August, and October 1, 1996 is the goal to be up and running. At first we will concentrate on Stores and our Purchasing activities; but we need to be up and running in all areas by the time the new financial software is ready next year.

I would like to welcome Sheree Siemiatkoski, new Project Manager for the Human Genome Laboratory (Bldg. 84). Sheree is on loan from Livermore for the duration of the project.

Finally: a very big congratulations to us all. The Conference Center annex to the Cafeteria was completed and the President's Council met there on June 3rd.

Bob Camper

FACILITIES DEPARTMENT

Facilities provides Berkeley Lab with a full range of architect and engineering, construction, and maintenance services for new facilities and modification and support of existing facilities.

Architect and engineering services include planning, programming, design, engineering, project management, and construction management for new facilities and modifications to existing facilities. Maintenance and construction functions include custodial, gardening, and lighting services; operation, service, and repairs or replacements to equipment and utility systems; and construction of modifications, alterations, and additions to

buildings, equipment, facilities, and utilities. Additional services include bus and fleet management, mail distribution, and the logistics functions of stores distribution and property disposal.

Ongoing Facilities activities include renewal and upgrade of site utility systems and building equipment; preparation of environmental planning studies; in-house energy management; space planning; and assurance of Laboratory compliance with appropriate facilities-related regulations and with University and DOE policies and procedures.

The Work Request Center expedites facility-related work requests, answers questions, and provides support for facility-related needs.

FOCUS ON SERVICE: Property Reuse Center

The used computers, fax machine, and furniture in the Property Reuse Center's Building 42 office may show their age, but they can still do the job—and they were free: reclaimed from Berkeley Lab's excess equipment and materials. For a small investment of time and with help from Property Reuse Supervisor Monte Clevenger, any Berkeley Lab organization can take advantage of similar bargains.

The Property Reuse Center is responsible for the orderly and safe reutilization and disposal of DOE property at the Lab. Building 42 and the Excess Property Warehouse at Building 903 are the Lab's clearinghouses for surplus and scrap, with

Building 42, located next to Grizzly Substation, receiving most of the material. Larger items that are declared excess by the Lab and appear to be serviceable, such as electric motors, HVAC equipment, laboratory equipment, machinery, and computers, are sent to Building 903. Clevenger and his staff go through all material before any of it leaves the labsite, both for conservation and to find any items or materials that need special handling. Pumps, for instance, need to be purged of residual oil, and computer storage disks and tapes must be purged of information.

"We recycle what we can," says Clevenger, "Our main concern is to

minimize what goes into the landfill." He and his staff have found ways to recycle or reuse much of what comes their way. In addition to the familiar recycling of metals and plastics, memory boards are pulled from old computers. Old refrigerators, which show up frequently, used to cost 25 dollars each to have hauled away. Recently, Clevenger found a scrap dealer who picks up and recycles refrigerators and water heaters at no charge.

Last year, sales of the Lab's scrap and excess property brought in well over \$100,000. Other savings result from reuse of material and equipment.

Many recycled items, stocked at

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COMPLIMENTS

Engineering's R.P. Singh praises the work of Move Team members Martin Dooley, Tom Viola, and Ted Sopher. "I personally moved twice, and each move was flawless in all aspects."

Bill Ghiorso says of Custodial Services' Sharonet Tablit, "I have been in [Building 58] for over 18 years and I have rarely seen it cleaner than she left it after a week's work."

Robert C. Pankhurst, Assistant Director of DOE's Engineering and Facilities Management Division said of Fred Angliss' seismic evaluation of Building 280 at the Stanford Linear Accelerator Center (SLAC), "You added credibility to our review that only a recognized expert could."

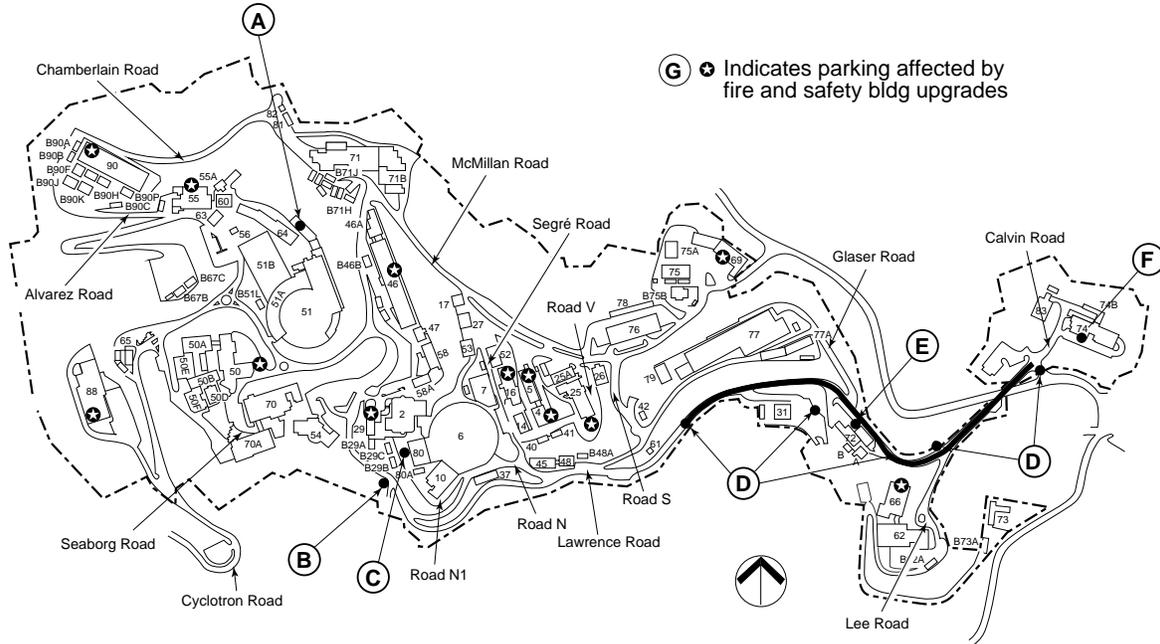
WORK REQUEST CENTER

Telephone	6274
Fax	6272
Quickmail	Facility
E- or VAX-Mail	lbl-Facilities@lbl.gov
Mailstop	76-222

WRC welcomes questions or comments about the Facilities Quarterly.

CONSTRUCTION AND YOU

Current construction projects affecting parking or vehicular or pedestrian circulation



Project Contacts. The name in parentheses after each project is the Project Manager (PM) or other person who is responsible for project oversight: coordinating all phases from design through construction; controlling cost, scope and schedule; and ensuring client satisfaction. This person will be happy to answer any questions about the project.

Bldg 64 Cooling Towers

A	JULY	AUG	SEPT
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Facilities is starting the demolition of the cooling towers behind Bldg 64. Construction vehicles will cause occasional delays on Alvarez Road. (John Pickrell, x6710)

Bldg 29 Parking Area

B	JULY	AUG	SEPT
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Site work continues. About 12 parking spaces between the Big C Substation and the Cafeteria are used for construction. (John Pickrell, x6710)

Bldg 6/80 ALS Structural Biology Support

C	JULY	AUG	SEPT
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Completion of construction is anticipated in July. The 20 parking spaces on the west side of Bldg 80 will be used by the contractor as a laydown area for the duration of the project. (Joe Harkins, x7486)

East Canyon Electrical Safety

D	JULY	AUG	SEPT
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The Bldg 66 parking lot will be used for cable storing and pulling operations. (John Pickrell, x6710)

Bldg 72C Laboratory and Office Addition

E	JULY	AUG	SEPT
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The new structure will be located at the north end of Bldg 72C in an existing parking area. Site work will require relocation of an existing office trailer. A few parking spaces will be reserved for the contractor during construction. (Greg Raymond, x4284)

Bldg 74 Animal Care Facility

F	JULY	AUG	SEPT
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Work continues on animal care and treatment room facilities on the 2nd floor of Bldg 74, including walls, doors, plumbing, electrical, flooring, etc. The subcontractor will use 3 spaces next to Bldg 74. (John Pickrell, x6710)

Fire & Safety Upgrades

G	JULY	AUG	SEPT
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Parking spaces adjacent to the east wing of Bldg 50 will be used as a contractor laydown area. Work is scheduled to continue through July. Construction also continues in Bldgs 55, 66, 88, and 90. Parking spaces adjacent to these buildings may be reserved for construction operations. (Richard Stanton, x6221)

ON THE DRAWING BOARD

projects in study or conceptual design

Blackberry Switching Station Replacement

The Blackberry Switching Station Replacement Project is the last major element in the master plan to rehabilitate the Lab's electrical power system and improve its reliability and safety. The project will upgrade the existing 12-kV power system and use circuit breakers provided in the FY87 improvements to Grizzly Substation. In addition to installing new 12-kV switchgear and cables, the project will eliminate the Big C switching station and switchgear at Bldg 51 and the Bldg 51 substation, and replace outdated 480 V load centers. (Richard Stanton, x6221)

Mechanical Systems Modernization, Phase 1

This first project in a series will upgrade high-priority equipment in building and support mechanical systems throughout the Laboratory. Replacements in this project will include cooling towers, heating hot water boilers, air fans, steam boilers, air compressors, water chillers, emergency generators, and ancillary piping and control systems. (Pablo Orozco, x5820)

Radio Communications Upgrade

The proposed GPP project will provide a complete emergency, security, and mobile maintenance radio system. Facilities improvements for the new radio system will include an unmanned modular radio communication shelter, free-standing radio tower, emergency generator, site utilities, and landscaping. (Chuck Taberski, x6076)

IN PROGRESS

funded projects

Building 72C Laboratory and Office Addition

Construction of an addition to Bldg 72C began in December and is scheduled for completion in September 1996. The addition provides three electron microscope laboratories on the first floor and ten supporting offices on the second floor, for a total area of 285 gross square meters (3,067 square feet). Direct access from the existing building is provided by corridor extensions on both levels. (Greg Raymond, x4284)

Sanitary Sewer Upgrade

Now in pre-design, this project will replace about 1,066 m of underground sanitary sewer lines. The system is over 50 years old, and degeneration has resulted from the past practice of discharging corrosive substances and from unstable geological conditions. Sewer breaks, offsets, obstructions, and undulations caused by ground movement and settling have resulted in excessive maintenance, sewer line cleaning problems, and possible soil contamination. (Pablo Orozco, x5820)

ALS Structural Biology Support Services

Construction is continuing with installation of wall framing, piping, and equipment. This project includes a build-out of the Bldg 80 high bay area into a complete second floor and installation of about 900 m² of lab and

office space in this area and the adjacent second floor of the ALS. Completion is expected in July 1996. (Joe Harkins, x7486)

Bldg 84 Human Genome Laboratory

Mass excavation is completed. Installation of the concrete foundation and steel building frames is in progress. The Human Genome Lab will be a 3,800 m², 3-story, state-of-the-art molecular genetics research facility. The building will be adjacent to existing Bldgs 74 and 83. Project completion will be in late 1997. (Sheree Siemiatkoski, x6088)

Energy Conservation Upgrades

Expansion of the Energy Monitoring and Control System (EMCS) continues. This system provides central monitoring and control of space-conditioning systems, including boilers, hot water pumps, air-handlers, and cooling towers. (Chuck Taberski, x6076)

Bldg 29 Parking Area

Work is in progress for the Bldg 29 parking area, which will provide about 42 parking spaces in the heavily populated central Lab area. The project includes site preparation, engineered fill placement, drainage, paving, lighting, guardrails, hydro-seeding, fence relocation, and striping. (John Pickrell, x6710)

Property Reuse

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Building 42 and the adjacent yard, find new lives at the Lab. Electrical and electronic components, such as resistors, are popular with Facilities electricians. Other Facilities crafts drop by Building 42 for cart wheels or spare parts for older equipment. Researchers, too, find small computers, laboratory glassware, printers, muffin fans, instrument racks, gas cylinders (which run about \$2,000 new), and NIM bins (around \$800 new). Office supplies—in many instances new—include three-ring binders, pens, pencils, file folders, dividers, and transparency sheets.

Located offsite at Building 903, Excess Property processes the more valuable and larger reusable items, screening them for reuse by Laboratory departments, DOE, and federal agencies. These items are entered in a national DOE database called the Reportable Excess Automated Property System (REAPS). REAPS can be accessed on the World Wide Web at <http://www.doe.gov/html/procure/reaps/reaps.html>.

Some property goes to colleges and uni-

versities through the Energy Related Laboratory Equipment (ERLE) grant program. Property that isn't picked up during the screening period is either donated to nonprofit educational organizations or sold in bid lot sales.

To save money on large equipment removal Clevenger advises notifying Property Reuse before removal arrangements have been made. Based on an inspection of the equipment, Property Reuse can often arrange for a recycler to pick it up on the hill. This saves the Lab the cost of transporting the item to Building 903.

Berkeley Lab donates some laboratory equipment and older computers such as Mac Pluses and SE's, along with software, to schools and nonprofit organizations. To register an organization in this program, contact Monte Clevenger by fax at 5169 or 7123, or by email at MAClevenger@lbl.gov. Include the name of the organization, the type of equipment needed and the intended use of the equipment.

The Property Reuse Center is open from 7:00 am to 3:30 pm, Monday through Friday, and visitors are welcome. The Excess Property Area is usually open from 9:00 am to 3:00 pm, Monday through

Friday. In case you can't find what you're looking for, you can add your need to the Reuse Center's "Wish List." You will be notified if the item you are looking for turns up within 90 days. In addition, you can subscribe to an email list of what's available by calling Monte Clevenger at 6242 or 4587 or sending email to MAClevenger@lbl.gov.

The Property Reuse Center will soon have to move from its Building 42 location, as a result of the turnover of Grizzly Substation to PG&E. Facilities is now studying the options for relocation. Although finding another location onsite is a possibility and preferred by many researchers and crafts personnel, moving to Building 903 would provide better operational efficiency, more space, and less handling by Transportation. A survey will be conducted in the near future to gauge interest in keeping the facility onsite.

NERSC

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for vendors and property tags for equipment, and ensured check-in of equipment with Berkeley Lab Property Management.

The move began when the computer room was ready on April 8. The Cray J932 multiprocessor was in place within days and was operational by mid-April. Three of six storage silos were moved into the second-floor computer room in April. The remaining three silos followed the Cray C90 to Berkeley in May. The massive C90 itself arrived on May 2 via the first-floor balcony of Building 50B. Installation was completed in days and the computer was ready for users on May 10.

New Maintenance Plan

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nance and maintenance projects, and factors in the increase in maintenance requirements resulting from new facilities, including the Hazardous Waste Handling Facility, Human Genome Laboratory, NERSC, Biomedical Isotope Facility, and Conference Center.

Ongoing maintenance is the day-to-day care of the physical plant, and includes management, administration and technical support as well as the actual upkeep of

building systems and equipment, site civil and mechanical, electrical, portable equipment, gardening and grounds, and house-keeping. Maintenance projects are the source of the backlog, and include repairs needed to keep roads, roofs, mechanical systems, and so on, in serviceable condition.

While the draft plan awaits action a new set of requirements is already in place to ensure that all maintenance projects are scheduled for completion.

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